

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (Use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	10/802,460
				Filing Date	March 16, 2004
				First Named Inventor	Bailey
				Art Unit	2811
Examiner Name	KANG, D.				
Sheet	4	of	4	Attorney Docket Number	LAM2P460

## U.S. Patent Documents

Examiner Initials	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	A4				
	B4				
	C4				
	D4				
	E4				
	F4				
	G4				
	H4				

## Foreign Patent Documents

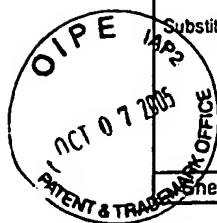
Examiner Initial	Cite No. <sup>1</sup>	Foreign Patent Document No.	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number- <sup>4</sup> Kind Code <sup>5</sup> (if known)				
	I4					<input type="checkbox"/>
	J4					<input type="checkbox"/>
	K4					<input type="checkbox"/>
	L4					<input type="checkbox"/>
	M4					<input type="checkbox"/>

## Non Patent Literature Documents

Examiner Initial	Cite No.	Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published			
Loke	N4	KAZUhide OHNO, MASAaki SATO, YOSHINOBU ARITA, "Reactive Ion Etching of Copper Films in SiCl <sub>4</sub> and N <sub>2</sub> Mixture", Japanese Journal of Applied Physics, June 1989, No. 6, Part 2, pp 1070 - 1072			
↓	O4	SEONGJU PARK, T.N. RHODIN, L.C. RATHBUN, "Halide formation and etching of Cu thin films with Cl <sub>2</sub> and Br <sub>2</sub> ", American Vacuum Society, Mar/Apr 1986, pp 168 - 172			
↓	P4	LYNN R. ALLEN, "Tungsten Plug Etchback in a TCP Etcher", Sharp Electronics Technology, Inc., pp 255 - 263			
Loke	Q4	K. MOSIG, T. JACOBS, P. KOFRON, M. DANIELS, K. BRENNAN, A. GONZALES, R. AUGUR, J. WETZEL, R. HAVEMANN, A. SHIOTA, "Single and Dual Damascene Integration of a Spin-on Porous Ultra low-k Material", IEEE, 2001 pp. 292 - 294			
Examiner Signature		Loke	Date Considered	10/4/06	

Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language translation is attached.



Substitute for form 1449/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (Use as many sheets as necessary)		Application Number	10/802,460
		Filing Date	March 16, 2004
		First Named Inventor	Bailey
		Art Unit	2811
		Examiner Name	KANG, D.
		Attorney Docket Number	LAM2P460
Sheet	1	of	4

## U.S. Patent Documents

Examiner Initials	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
Loke	A	US 2004/242012	Dec 2, 2004		
	B	6,767,829	Jul 27, 2004	Akahori	
	C	6,600,229	Jul 29, 2003	Mukherjee et al.	
	D	6,482,755	Nov 19, 2002	Ngo et al.	
	E	US 2001/018271	Aug 30, 2001	Yanagisawa	
	F	6,440,840	Aug 27, 2002	Chen	
	G	US 2001/015175	Aug 23, 2001	Masuda et al.	
Loke	H	6,417,093	Jul 9, 2002	Xie et al.	

## Foreign Patent Documents

Examiner Initial	Cite No. <sup>1</sup>	Foreign Patent Document No.	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
Loke	I	EP 1 320 128 A1	06/18/03	AMI Semiconductor		<input type="checkbox"/>
	J	WO 03/026004	03/27/03	Tokyo Electron Limited		<input type="checkbox"/>
	K	EP 1 081 751 A2	03/07/01	Applied Materials		<input type="checkbox"/>
	L	EP 1 041 614 A1	10/04/00	LSI Logic Corporation		<input type="checkbox"/>
Loke	M	JP 11 067766	03/09/99	Sony Corp.		<input type="checkbox"/>

## Non Patent Literature Documents

Examiner Initial	Cite No.	Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published
Loke	N	NAGRAJ S. KULKARNI, ROBERT T. DeHOFF, "Application of Volatility Diagrams for Low Temperature, Dry Etching, and Planarization of Copper", Journal of The Electromechanical Society, 2002, pp G620 - G632
Loke	O	LYNN R. ALLEN, JOHN M. GRANT, "Tungsten plug etchback and substrate damage measured by atomic force microscopy", J. Vac. Sci. Technol. May/Jun 1995, pp 918 - 922
	P	
	Q	

Examiner Signature	Loke	Date Considered	10/4/06
--------------------	------	-----------------	---------

Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language translation is attached.

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (Use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	10/802,460
				Filing Date	March 16, 2004
				First Named Inventor	Bailey
				Art Unit	2811
				Examiner Name	KANG, D.
Sheet	2	of	4	Attorney Docket Number	LAM2P460

## U.S. Patent Documents

Examiner Initials	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
Loke	A2	6,383,935	May 7, 2002	Lin et al.	
	B2	6,350,664	Feb 26, 2002	Haji et al.	
	C2	6,350,364	Feb 26, 2002	Jang	
	D2	6,323,121	Nov 27, 2001	Liu et al.	
	E2	6,234,870	May 22, 2001	Uzoh et al.	
	F2	6,221,775	Apr 24, 2001	Ference et al.	
	G2	6,096,230	Aug 1, 2000	Scatz et al.	
Loke	H2	6,056,864	May 2, 2000	Cheung	

## Foreign Patent Documents

Examiner Initial	Cite No. <sup>1</sup>	Foreign Patent Document No.	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number- <sup>4</sup> Kind Code <sup>5</sup> (if known)				
Loke	I2	WO 02/37541 A2	May 10, 2002	Applied Materials Inc.		<input type="checkbox"/>
	J2	WO 00/59005	Oct 5, 2000	Tokyo Electron Limited		<input type="checkbox"/>
Loke	K2	WO 99/46812	Sep 16, 1999	Applied Materials Inc.		<input type="checkbox"/>
	L2					<input type="checkbox"/>
	M2					<input type="checkbox"/>

## Non Patent Literature Documents

Examiner Initial	Cite No.	Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published
Loke	N2	N. HOSOI, Y. OHSHITA, "Plasma Etching of Copper Films Using IR Light Irradiation", Mat. Res. Soc. Symp. Proc. Vol. 337, 1995, pp 201 - 205
Loke	O2	Y. OHSHITA, N. HOSOI, "Lower temperature plasma etching of Cu using IR light irradiation", Thin Solid Films, 1995"
	P2	
	Q2	

Examiner Signature	Loke	Date Considered	10/4/06
--------------------	------	-----------------	---------

Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language translation is attached.

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (Use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	10/802,460
				Filing Date	March 16, 2004
				First Named Inventor	Bailey
				Art Unit	2811
Examiner Name	KANG, D.				
Sheet	3	of	4	Attorney Docket Number	LAM2P460

## U.S. Patent Documents

Examiner Initials	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
Loke	A3	6,051,496	Apr 18, 2000	Jang	
	B3	5,968,847	Oct 19, 1999	Ye	
	C3	5,387,315	Feb 7, 1995	Sandhu	
	D3	5,256,565	Oct 26, 1993	Bernhardt	
Loke	E3	5,098,516	Mar 24, 1992	Norman	
	F3				
	G3				
	H3				

## Foreign Patent Documents

Examiner Initial	Cite No. <sup>1</sup>	Foreign Patent Document No.	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number- <sup>4</sup> Kind Code <sup>5</sup> (if known)				
	I3					<input type="checkbox"/>
	J3					<input type="checkbox"/>
	K3					<input type="checkbox"/>
	L3					<input type="checkbox"/>
	M3					<input type="checkbox"/>

## Non Patent Literature Documents

Examiner Initial	Cite No.	Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published			
Loke	N3	WILLIAM F. MARX, YUNJU RA, RICHARD YANG, CHING-HWA CHEN, "Plasma and processing effects of electrode spading for tungsten etchback using a bipolar electrostatic wafer clamp", J. Vac. Sci Technol., Nov/Dec 1994, pp 3087 - 3090			
	O3	J. FARKAS, K.-M. CHI, M. J. HAMPDEN-SMITH, T.T. KODAS, "Low-temperature copper etching via reactions with Cl <sub>2</sub> and Pt <sub>2</sub> under ultrahigh vacuum conditions," American Institute of Physics, February 1, 1993, pp 1455 - 1460			
Loke	P3	DAVID T. PRICE, RONALD J. GUTMANN, SHYAM P. MURARKA, "Damascene copper interconnects with polymer ILDs", 1997 Thin Solid Films, pp. 523 - 528			
	Q3				
Examiner Signature	Loke		Date Considered	10/4/06	

Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language translation is attached.